

Overall Comments

Major comment from Debra Smiley for Bonneville Power Administration

The Bonneville Power Administration (BPA) appreciates the opportunity to comment on draft DOE Order 420.1C, Facility Safety. BPA has no edits or comments to the draft Order as written.

Response:

Accept

Suggested comment from Marilyn Jacobs for Headquarters EM

Included comments:

SME Robert.Nelson@em.doe.gov

No Comment

Response:

Accept

SME Jack.Parker@srs.gov

No Comment

Response:

Accept

Bobby Williams for Office of River Protection

No Comment

Response:

Accept

Annette Erdman for Richland Operations Office

No Comment

Response:

Accept

SME jamie.prowse@wv.doe.gov

No Comment

Response:

Accept

SME daniel.stachelski@wv.doe.gov

No Comment

Response:

Accept

Andrea Cooper for Carlsbad Field Office
No Comment

Response:
Accept

Suggested comment from Steve Duarte for Headquarters GC

Included comments:

SME hirsh.kravitz@hq.doe.gov
No Comment

Response:
Accept

SME Stephen.Smith@hq.doe.gov
No Comment

Response:
Accept

SME nisha.kumar@hq.doe.gov

No comment.

Response:
Accept

Suggested comment from Bill Schwartz for Headquarters HG

This package represents the official, consolidated comments of **Poli A. Marmolejos, Director**

No Comment

Response:
Accept

Suggested comment from Emily Jackson for Headquarters LM

Included comments:

SME chequita.johnson@hq.doe.gov
No Comment

Response:
Accept

SME shelly.vigil@lm.doe.gov

No Comment

Response:

Accept

Suggested comment from LaVerne Fuller for Headquarters MA

This package represents the official, consolidated comments of **N/A - Comment package automatically submitted.**

No Comment

Response:

Accept

Major comment from Cathy Tullis for Headquarters NA

This package represents the official, consolidated comments of **Cathy Tullis**

Included comments:

SME William.Pulse@nnsa.doe.gov

3009-2014 and 1104-2014 are cited in several locations in 420.1C, Chg 1. These need to be removed as these two technical standards are not yet approved, and it is inappropriate to direct compliance with draft documents.

Response:

Reject The DOE O 420.1C page change will not be issued until the standards revisions are issued.

Suggested comment from Cathy Tullis for Headquarters NA

This package represents the official, consolidated comments of **Cathy Tullis**

Included comments:

SME Jose.Munoz@nnsa.doe.gov

DOE O 420.1C should address AHJ responsibilities for matters involving NPH.

Response:

Reject This is addressed by existing FEM responsibilities: (10) Approve periodic NPH assessment evaluations, any recommended update actions, and any recommended upgrade plans, in accordance with Chapter IV of Attachment 2 of this Order.

SME Jose.Munoz@nnsa.doe.gov

DOE O 420.1C should be revised to clarify that a previous (not latest published) code or standard revision may be more applicable bases on the development of code-of-record to sync with state adopted building code (e.g., 2009 IBC).

Results of the Technical Position (NSEP-TP-2007-1 *Technical Position on the Requirement in DOE O 420.1B to Use National Consensus Industry Standards and the Model Building Codes*) should be incorporate into DOE O 420.1C.

Response:

Accept This is addressed in Attachment 1, Section 1.c which requires identification of the applicable IBC.

SME Jose.Munoz@nnsa.doe.gov

Equivalencies and Exemptions: Throughout the Order and its attachments there are inconsistencies regarding equivalencies and exemptions that need clarification, e.g.:

Order; §3.c.(1) states, "Requests for equivalencies and exemptions to the requirements of this Order ... (Note: This includes exemptions to DOE technical standards and industry codes, and standards **required by this Order**)." The Order does not specifically require any industry code or standard, with the exception of calling out NFPA 1143. Attachment 3 to the Order states, "To establish requirements for the design and construction of safety-SSCs, ... by identifying an applicable set of industry codes and standards, ... and industry codes and standards identified in the following sections must be evaluated for applicability."

Order; §3.c.(2) states, "Equivalencies to DOE technical standards, as well as industry codes, and standards, **determined to be applicable** to the facility design or operations must demonstrate an equivalent level of safety ... (Note: Different codes and standards may use different terminology for relief; e.g., for building code applications, the terms 'modification' or 'alternative' may be substituted for 'equivalency'.)" For industry codes and standards, any alternative or substitute allowed within the purview of the specific industry code or standard as already been deemed acceptable; therefore, determining "equivalent level of safety" has no added value.

Attachment 1; §2. States, "... This includes exemptions **to applicable requirements** in DOE technical standards and industry codes and standards required by DOE O 420.1C. ... Equivalencies to DOE technical standards and industry codes and standards **determined to be applicable** to the facility design or operations must demonstrate an equivalent level of safety ..."

Response:

Reject Differences are intended. Section 3.c.(1) is intended to differ from 3.c.(2). The Order does require use of additional industry standards beyond NFPA 1143. For example, Attachment 3 requires use of IEEE 379 and others. Regarding differences between 'design and operations' and 'design and construction', these are intended. Attachment 3 provides 'design and construction' requirements; in this context, construction requirements such as concrete requirements are a subset of design requirements. In contrast, other parts of the Order (e.g., Attachment 2, Chapters II, III, IV, V) include requirements applicable to facilities in the operational phase.

Included comments:

SME Christopher.Long@inl.gov

DOE-STD-3009-2014, "Preparation of Nonreactor Nuclear Facility Documented Safety Analysis" is referenced in several locations. To avoid confusion, 420.1C should state that the final approved version of 3009 should be used to comply with 420.1C. This will avoid contractors drafting safety basis documents to the requirements of the current draft version of STD-3009.

Response:

Reject The DOE O 420.1C page change will not be issued until the standards revisions are issued.

Suggested comment from PK Niyogi for Headquarters NE**Included comments:**

SME andrew.pierce@nuclear.energy.gov

No Comment

Response:

Accept

SME maggarcl@id.doe.gov

It is problematic to review and comment on changes in this Order to Standards that have not yet been approved. It would have been better to review them as one package so consistency and understanding could be factored in. (perfect world) As such, it would be appropriate to hold approve all at once to make sure you are not causing unintended consequences

Response:

Reject The DOE O 420.1C page change will not be issued until the standards revisions are issued.

SME gorhamml@id.doe.gov

No Comment

Response:

Accept

SME moormadj@id.doe.gov

No Comment

Response:

Accept

SME petersvm@id.doe.gov

No Comment

Response:

Accept

SME Michael.Lehto@inl.gov

No Comment

Response:

Accept

Major comment from Jennifer Kelley for Headquarters SC

This package represents the official, consolidated comments of **Joe McBrearty, Deputy Director for Field Operations**

The justification memo states that the purpose of Change 1 is to make miscellaneous administrative corrections and clarifications with minimal impact.

Attachment 2, Chapter II, Paragraph 3b(1) adds a mandatory ("must") contractor requirement that is beyond an administrative change and that has the potential for significant impact. Another comment at that section proposes a remedy to this issue.

Response:

Reject This requirement was implied based on the DOE responsibility [identified in existing Section 5.c.(5)] to approve contractors' fire protection programs. This clarification was made based on feedback from DOE O 420.1C roll-out training sessions.

Suggested comment from Cecelia Kenney for Headquarters AU (formerly HS)

This package represents the official, consolidated comments of **MATTHEW B. MOURY, ACTING ASSOCIATE UNDER SECRETARY FOR ENVIRONMENT, HEALTH, SAFETY AND SECURITY** and **STEPHEN A. KIRCHHOFF, ACTING DEPUTY ASSOCIATE UNDER SECRETARY FOR ENVIRONMENT, HEALTH, SAFETY AND SECURITY**

No Comment

Response:

Accept

Suggested comment from Rauland Sharp for Headquarters HC

This package represents the official, consolidated comments of **Rauland A. Sharp**

No Comment

Response:

Accept

Suggested comment from John Wall for Headquarters CF

No Comment

Response:

Accept

Suggested comment from Sharon Edge-Harley for Headquarters IEA (Independent Enterprise Assessment)

This package represents the official, consolidated comments of **William A. Eckroade, Deputy Director Office of Independent Enterprise Assessments** and **Lesley A. Gasperow, Deputy Director for Corporate Functions**

No Comment

Response:

Accept

NOTE

Major comment from Steve Duarte for Headquarters GC

Included comments:

SME robin.henderson@hq.doe.gov

Please change the final sentence in 3.c.(4) to read as follows: "DOE orders, regulations, **technical standards** and/or guidelines will apply where the NRC ~~defers to DOE or~~ does not exercise regulatory authority, **or by agreement with NRC**."

Response:

Accept

Suggested comment from Steve Duarte for Headquarters GC

Included comments:

SME james.jurich@hq.doe.gov

Recommend Paragraph 3c(1) wording be changed to read "Requests for equivalencies/exemptions to the requirements..." This recognizes the distinction between equivilencies and exemptions and matches the language used in the Order template available at https://www.directives.doe.gov/development-and-review-of-directives/directives_templates

Response:

Reject

Major comment from Bud Danielson for Headquarters CTA

The new sentence is missing a key word "activities" for concormance with the exisiting sentence.

Suggest the sentence read: "DOE orders, regulations, and/or guidelines will apply **to all activities** where the NRC defers to DOE or does not exercise regulatory authority.

Response:

Accept

Major comment from Cathy Tullis for Headquarters NA

Included comments:

SME charles.voldness@nnsa.srs.gov

Application of this Order to major modifications to existing facilities will result in two different versions of this order applying to a single facility which will likely create confusion and significant implementation issues.

Response:

Reject The Department has made a policy decision to apply STD-3009-2014 to major modifications to existing facilities. The Order allows PSO/CTA approval of exemptions to this requirement. PSO decisions regarding use of DOE-STD-3009-2014 for major modifications will depend on the scope of the modifications.

SME mrgreut@sandia.gov

The required use of STD-3009-2014 for Major Modifications to existing facilities will result in the need for an entire DSA upgrade, since the methodology in STD-3019-2014 is significantly different than the current revision. Trying to implement both versions of 3009 in the same DSA does not seem to be possible. I would remove the major modification requirement from this change.

Response:

Reject The Department has made a policy decision to apply STD-3009-2014 to major modifications to existing facilities. The Order allows PSO/CTA approval of exemptions to this requirement. PSO decisions regarding use of DOE-STD-3009-2014 for major modifications will depend on the scope of the modifications.

SME tim.smith@nnsa.srs.gov

Requiring the use of the new 3009 standard for a major modification to an existing facility is excessive. This should be left to the discretion of the field office manager. Additionally, would only the major modification be under the new standard or would this require a complete re-write of the DSA?

Response:

Reject The Department has made a policy decision to apply STD-3009-2014 to major modifications to existing facilities. The Order allows PSO/CTA approval of exemptions to this requirement. PSO decisions regarding use of DOE-STD-3009-2014 for major modifications will depend on the scope of the modifications.

SME Jose.Munoz@nnsa.doe.gov

Attachment 2, Chapter II, §3., item g. states, "An integrated site-wide wildland fire management plan, consistent with the *Federal Wildland Fire Management Policy*, **must be established and implemented in accordance with NFPA 1143**, ...
[*bolded for emphasis*]

If DOE is responsible for establishing the site-wide fire management plan then the requirements on the contractor to establish IAW NFPA 1143 needs to be removed or clarified accordingly.

Response:

Accept with Modifications Changed CRD requirement to "develop and implement".

Suggested comment from Cathy Tullis for Headquarters NA

Included comments:

SME charles.voldness@nnsa.srs.gov

The Program Secretarial Officer needs to be more clearly defined/identified.

Response:

Reject

Jennifer Bitsie for Sandia Field Office

Attachment 2, Chapter II, §3., item g. states, "An integrated site-wide wildland fire management plan, consistent with the *Federal Wildland Fire Management Policy*, **must be established and implemented in accordance with NFPA 1143**, ...
[*bolded for emphasis*]

If DOE is responsible for establishing the site-wide fire management plan then the requirements on the contractor to establish IAW NFPA 1143 needs to be removed or clarified accordingly.

Response:

Accept with Modifications Changed CRD requirement to "develop and implement".

SME Jose.Munoz@nnsa.doe.gov

§4.; items e. - i.

Delete "and" at the end of item e.; change period to semi-colon in items f. through h.; and add "and " at the end of item h.

Response:

Accept

Jacquelyn Silva for Sandia National Laboratories

7/22/14: Changed SME mrgreut@sandia.gov 7/14/2014 Major Comment to

Suggested Comment per SFO.

The required use of STD-3009-2014 for Major Modifications to existing facilities will result in the need for an entire DSA upgrade, since the methodology in STD-3019-2014 is significantly different than the current revision. Trying to implement both versions of 3009 in the same DSA does not seem to be possible. I would remove the major modification requirement from this change.

Response:

Reject The Department has made a policy decision to apply STD-3009-2014 to major modifications to existing facilities. The Order allows PSO/CTA approval of exemptions to this requirement. PSO decisions regarding use of DOE-STD-3009-2014 for major modifications will depend on the scope of the modifications.

Major comment from Cathy Tullis for Headquarters NA

Included comments:

Linell Carter for Pantex - BWXT Pantex, LLC

4 g. DOE-STD-3009-2014 has not been through the formal concurrence process. The version currently in use is DOE-STD-3009-94 Change 3. Contractors cannot be directed to use a STD that has not officially been published and readily available. Authorization Basis (AB) will have to review for implementation/applicability.

Response:

Reject The DOE O 420.1C page change will not be issued until the standards revisions are issued.

SME mitchell36@llnl.gov

Acceptable as written; but LLNL does not agree if applicability is changed to existing facilities or otherwise broadened. Hold the line - ensure that no new requirements flow down to existing facilities via DOE-STD-1104 or other mechanisms. Previous cost estimate that DSA revision would be in the range of millions of dollars, per facility

Response:

Accept

Suggested comment from Cathy Tullis for Headquarters NA

Included comments:

SME Jose.Munoz@nnsa.doe.gov

Item b. of §4 already has a DOE requirement to implement the requirements in Attachment 1 and Attachment 1 has been revised to include this requirement under §1.; unless there is a different DOE requirement than that covered under item

b., this requirement is not necessary.

Delete item, entirely; if items are not deleted then revise second-half of the 1st sentence to read:

... when the DOE-STD-3009 **methodology** is used to satisfy 10 C.F.R. 830 **safety basis** requirements for new DOE nuclear facilities and major modifications to existing DOE nuclear facilities.

Additionally, requiring the use of DOE-STD-3009-2014 for major modifications to existing nuclear facilities has the potential to create inconsistent analyses within the same documents.

Response:

Reject Section 4.b deals specifically with Government-owned, Government-operated facilities, no overlap identified.

Major comment from PK Niyogi for Headquarters NE

Included comments:

SME darrell.huff@nuclear.energy.gov

10 CFR 830 does not specifically require a new non-reactor nuclear facility or a major modification of an existing non-reactor nuclear facility to use DOE-STD-3009-2014. Therefore, this requirement directly conflicts with the requirement in Section 4.d.(2) of DOE Order 251.1C which states that: "Departmental directives shall not duplicate or be inconsistent with applicable laws or regulations." Since the latitude exists within 10 CFR 830 to use any approved version of DOE-STD-3009 including Change Notice No. 1, January 2000, Preparation Guide for U.S. Department of Energy Non-reactor Nuclear Facility Safety Analysis Reports, July 1994, a successor document, or any other methodology that is approved by the DOE safety basis approval authority, the requirement in this Order to use DOE-STD-3009-2014 for new DOE non-reactor nuclear facilities and major modifications to existing non-reactor nuclear facilities directly conflicts with the aforementioned requirement in DOE Order 251.1C.

Response:

Reject The requirement in the Order is not identical to the requirement in the Rule. The requirement in the Order supplements the requirement in the Rule in that it specifies a specific version of DOE-STD-3009 to be used in identified cases.

SME maggarcl@id.doe.gov

" to existing DOE nuclear facilities." should be to existing DOE nonreactor nuclear facilities". A reactor can have a major mod, but they don't use STD-3009.

Response:

Accept Also changed the CRD to be consistent.

Suggested comment from Jennifer Kelley for Headquarters SC

Change DOE-STD-3009-2014, *Preparation of Nonreactor Nuclear Facility Documented Safety Analysis* to DOE-STD-3009-94, *Preparation Guide For U.S. Department of Energy Nonreactor Nuclear Facility Documented Safety Analysis*.

Response:

Reject The revised version of DOE-STD-3009 will be called DOE-STD-3009-2014, if issued in 2014, rather than DOE-STD-3009-94, Change Notice 4 because of the magnitude of the changes.

Revise "major modifications to existing DOE nuclear facilities" to "major modifications to existing DOE non-reactor nuclear facilities". Safe harbor methodology for a reactor facility is not DOE-STD-3009.

Response:

Accept Also changed the CRD to be consistent.

Change 10 C.F.R. 830 to Title 10 Code of Federal Regulations Chapter 830, *Nuclear Safety Management*.

Response:

Accept Also changed the CRD to be consistent.

Major comment from Bud Danielson for Headquarters CTA

Please review the wording in the final sentence, specifically the phrase, "...the applicable PSO, with concurrence by the applicable Central Technical Authority, may approve an exception to this requirement." I believe this should state an "exemption" to the requirement. I don't believe the Directives process defines an "exception" to a requirement.

Response:

Accept with Modifications Revised to read: [note: for such major modifications to existing non-reactor nuclear facilities, the applicable PSO, with concurrence by the applicable Central Technical Authority, may approve use of DOE-STD-3009-94];

The last sentence is not required since the topic is covered by para. 3.c.(1). Suggest that the topic be included in 3.c.(1) or 3.c.(2) with other language that discusses exemption/exceptions.

In addition, each use of the term "nuclear facility" should be modified to read "**non-reactor** nuclear facility".

Response:

Accept with Modifications The last sentence is retained for emphasis at the request of several PSOs. The qualifier 'non-reactor' has been added.

Suggested comment from Bud Danielson for Headquarters CTA

Included comments:

SME stephen.mcduffie@rl.doe.gov

Please review the wording in the final sentence, specifically the phrase, "...the applicable PSO, with concurrence by the applicable Central Technical Authority, may approve an exception to this requirement." I believe this should state an "exemption" to the requirement. I don't believe the Directives process defines an "exception" to a requirement.

Response:

Accept with Modifications Revised to read: [note: for such major modifications to existing non-reactor nuclear facilities, the applicable PSO, with concurrence by the applicable Central Technical Authority, may approve use of DOE-STD-3009-94];

Major comment from Cathy Tullis for Headquarters NA

Included comments:

SME Jose.Munoz@nnsa.doe.gov

Item b. of §4 already has a DOE requirement to implement the requirements in Attachment 1 and Attachment 1 has been revised to include this requirement under §1.; unless there is a different DOE requirement than that covered under item b., this requirement is not necessary.

Delete item, entirely; if items are not deleted then revise second-half of the 1st sentence to read:

Direct its applicable contractors to **comply with the requirements specified in DOE-STD-3009-2014 (Section 3.3.1, Existing Facilities with Mitigated Offsite Consequence Estimates over the EG)**, for existing DOE nuclear facilities that have mitigated off-site dose estimates greater than 25 rem.

Response:

Reject Section 4.b deals specifically with Government-owned, Government-operated facilities, no overlap identified.

Linell Carter for Pantex - BWXT Pantex, LLC

4 h. DOE-STD-3009-2014 has not been through the formal concurrence process. The version currently in use is DOE-STD-3009-94 Change 3. Contractors cannot

be directed to use a STD that has not officially been published and readily available. Authorization Basis (AB) will have to review for implementation/applicability.

Response:

Accept The DOE O 420.1C page change will not be issued until the standards revisions are issued.

SME mitchell36@llnl.gov

Acceptable as written; but LLNL does not agree if applicability is changed to existing facilities or otherwise broadened. Hold the line - ensure that no new requirements flow down to existing facilities via DOE-STD-1104 or other mechanisms. Previous cost estimate that DSA revision would be in the range of millions of dollars, per facility.

Response:

Accept

Major comment from PK Niyogi for Headquarters NE

Included comments:

SME darrell.huff@nuclear.energy.gov

10 CFR 830 does not specifically require a new non-reactor nuclear facility or a major modification of an existing non-reactor nuclear facility to use DOE-STD-3009-2014. Therefore, this requirement directly conflicts with the requirement in Section 4.d.(2) of DOE Order 251.1C which states that: "Departmental directives shall not duplicate or be inconsistent with applicable laws or regulations." Since the latitude exists within 10 CFR 830 to use any approved version of DOE-STD-3009 including Change Notice No. 1, January 2000, Preparation Guide for U.S. Department of Energy Non-reactor Nuclear Facility Safety Analysis Reports, July 1994, a successor document, or any other methodology that is approved by the DOE safety basis approval authority, the requirement in this Order to use DOE-STD-3009-2014 for new DOE non-reactor nuclear facilities and major modifications to existing non-reactor nuclear facilities directly conflicts with the aforementioned requirement in DOE Order 251.1C.

Response:

Reject The requirement in the Order is not identical to the requirement in the Rule. The requirement in the Order supplements the requirement in the Rule in that it specifies a specific version of DOE-STD-3009 to be used in identified cases.

Major comment from Jennifer Kelley for Headquarters SC

Please provide allowance for applicable sections of DOE-STD-1104-2014 to be used when Regulatory Guide 1.7 is used as the safe harbor.

Response:

Accept Section 4.i requires use of the revised DOE-STD-1104 and this revision allows for DOE review against the applicable safe harbor method.

Suggested comment from Jennifer Kelley for Headquarters SC

Change rem to Roentgen equivalent man (rem).

Response:

Reject nomenclature is not to spell out units of measurement.

Suggested comment from Bud Danielson for Headquarters CTA

If there was a case where 3009 was not used, does this leave open the option for NO review of existing facilities?

Response:

Accept No action required. First, no existing facilities have been identified that exceed 25 rem off-site dose and do not use DOE-STD-3009 as the safe harbor.

Second, the DOE 2010-1 IP calls for revision of other safe harbor standards after DOE-STD-3009 is revised. When these are revised, this issue will be further addressed if necessary. Further, the revision to DOE-STD-1104 will address this issue for all facilities regardless of safe harbor used.

Major comment from Steve Duarte for Headquarters GC**Included comments:**

SME robin.henderson@hq.doe.gov

Please delete "and" at the end of paragraph e. and change the period at the end of paragraphs f., g., and h. to semi-colons. Please add "and" at the end of paragraph h., after the new semi-colon. In paragraphs g. and h., please change "Direct its applicable contractors" to "Direct its contractors, as applicable." Please add the word "Part" after "C.F.R. in paragraphs g. and h..

Response:

Accept

Major comment from Cathy Tullis for Headquarters NA**Included comments:**

Linell Carter for Pantex - BWXT Pantex, LLC

4 i. DOE-STD-1104-2014 has not been through the formal concurrence process. Contractors cannot be directed to use a STD that has not officially been published and readily available. Authorization Basis (AB) will have to review for implementation/applicability.

Response:

Accept The DOE O 420.1C page change will not be issued until the standards revisions are issued.

SME mitchell36@llnl.gov

Acceptable as written; but LLNL does not agree if DOE-STD-1104 changes applicability of 3009-2014 to existing facilities, or otherwise broadened, or if 1104 flows down new requirements to existing facilities. Previous cost estimate that DSA revision would be in the range of millions of dollars, per facility.

Response:

Accept

Major comment from Jennifer Kelley for Headquarters SC

Revise 4.i to: Review and approve non-reactor nuclear facility safety basis and safety design basis documents in accordance with DOE-STD-1104-2014, Review and Approval of Nuclear Facility Safety Basis and Safety Design Basis Documents". The safety harbor methodology for a reactor facility is Nuclear Regulatory Commission Regulatory Guide 1.70. DOE-STD-1104 is primarily written for review and approval of a DOE-STD-3009 safe harbor methodology. DOE-STD-1104 is not well suited for a review of the NRC Reg. Guide 1.70 safe harbor methodology.

Response:

Accept Section 4.i requires use of the revised DOE-STD-1104 and this revision allows for DOE review against the applicable safe harbor method. - No action required.

Suggested comment from Jennifer Kelley for Headquarters SC

DOE-STD-1104-2014 does not exist; DOE-STD-1104-2009 does.

Response:

Reject The DOE O 420.1C page change will not be issued until the standards revisions are issued.

The 2014 "version" of this STD is still in DRAFT, thus comment on the appropriateness of this addition is not possible. It would be better suited to add this after the document has been finalized and allow the reviewer ample opportunity to evaluate the potential impact of the changes to the applicability to this directive through its addition.

Response:

Accept The DOE O 420.1C page change will not be issued until the standards revisions are issued.

Suggested comment from Steve Duarte for Headquarters GC

Included comments:

SME robin.henderson@hq.doe.gov

Please change (3) to read as follows: "Review and approve safety basis and safety design basis documents in accordance with DOE-STD-1104-2014.

Response:

Accept

Major comment from Cathy Tullis for Headquarters NA

Included comments:

Linell Carter for Pantex - BWXT Pantex, LLC

5.a.(3) DOE-STD-1104-2014 has not been through the formal concurrence process. Contractors cannot be directed to use a STD that has not officially been published and readily available. Authorization Basis (AB) will have to review for implementation/applicability.

Response:

Accept The DOE O 420.1C page change will not be issued until the standards revisions are issued.

SME mitchell36@llnl.gov

Acceptable as written; but LLNL does not agree if DOE-STD-1104 changes applicability of 3009-2014 to existing facilities, or otherwise broadened, or if 1104 flows down new requirements to existing facilities. Previous cost estimate that DSA revision would be in the range of millions of dollars, per facility.

Response:

Accept

Suggested comment from Cathy Tullis for Headquarters NA

Included comments:

SME charles.voldness@nnsa.srs.gov

5.c(13) - The term "applicable" should be more clearly defined.

Response:

Accept with Modifications Deleted this responsibility. Determined that it is adequately covered in prior Section 5.c.(2).

Major comment from Jennifer Kelley for Headquarters SC

Revise 5a(3) to: In accordance with DOE-STD-1104-2014, review and approve non-reactor nuclear facility safety basis and and safety design basis documents. The safety harbor methodology for a reactor facility is Nuclear Regulatory Commission Regulatory Guide 1.70. DOE-STD-1104 is written for review and approval of a DOE-STD-3009 safe harbor methodology. DOE-STD-1104 is not well suited for a review of the NRC Reg. Guide 1.70 safe harbor methodology.

Response:

Accept Section 4.i requires use of the revised DOE-STD-1104 and this revision allows for DOE review against the applicable safe harbor method. - No action required.

Suggested comment from Jennifer Kelley for Headquarters SC

Since DOE STD 1104 2014 is still in DRAFT the addition of this to the directive is impossible to fully evaluate for appropriateness, thus it should not be added until it has been finalized and released to allow for full evaluation of the content and its impact on the addition to this directive.

Response:

Accept The DOE O 420.1C page change will not be issued until the standards revisions are issued.

Major comment from Steve Duarte for Headquarters GC

Included comments:

SME robin.henderson@hq.doe.gov

Please change paragraph (13) to read as follows: "Direct contractors, as applicable, to use . . ."

Response:

Accept with Modifications Deleted this responsibility. Determined that it is adequately covered in prior Section 5.c.(2).

SME james.jurich@hq.doe.gov

Delete (13) and move this requirement to the CRD. Contract requirements must be communicated via the CRD and included within the contract, itself. HFEs may not direct contract work outside of the processes set forth in the contract or the four corners of the document.

Response:

Accept Deleted this responsibility. Determined that it is adequately covered in prior Section 5.c.(2).

Major comment from Cathy Tullis for Headquarters NA**Included comments:**

SME mitchell36@llnl.gov

Acceptable as written; but LLNL does not agree if DOE-STD-1104 changes applicability of 3009-2014 to existing facilities or otherwise broadened; or if 1104 flows down new requirements to existing facilities; or if 3009-2014 applicability is otherwise changed or otherwise broadened. Previous cost estimate that DSA revision would be in the range of millions of dollars, per facility.

Response:

Accept

Linell Carter for Pantex - BWXT Pantex, LLC

5.c.(8) No Comment

5.c.(13) DOE-STD-3009-2014 has not been through the formal concurrence process. The version currently in use is DOE-STD-3009-94 Change 3. Contractors cannot be directed to use a STD that has not officially been published and readily available.

5.c.(14) DOE-STD-1104-2014 has not been through the formal concurrence process. Contractors cannot be directed to use a STD that has not officially been published and readily available.

Response:

Accept The DOE O 420.1C page change will not be issued until the standards revisions are issued.

Major comment from PK Niyogi for Headquarters NE**Included comments:**

SME darrell.huff@nuclear.energy.gov

10 CFR 830 does not specifically require a new non-reactor nuclear facility or a major modification of an existing non-reactor nuclear facility to use DOE-STD-3009-2014. Therefore, this requirement directly conflicts with the requirement in Section 4.d.(2) of DOE Order 251.1C which states that: "Departmental directives shall not duplicate or be inconsistent with applicable laws or regulations." Since the latitude exists within 10 CFR 830 to use any approved version of DOE-STD-3009 including Change Notice No. 1, January 2000, Preparation Guide for U.S. Department of Energy Non-reactor Nuclear Facility Safety Analysis Reports, July 1994, a successor document, or any other methodology that is approved by the DOE safety basis approval authority, the requirement in this Order to use DOE-STD-3009-2014 for new DOE non-reactor nuclear facilities and major modifications to existing non-reactor nuclear facilities directly conflicts with the aforementioned requirement in DOE Order 251.1C.

Response:

Reject The requirement in the Order is not identical to the requirement in the Rule. The requirement in the Order supplements the requirement in the Rule in that it specifies a specific version of DOE-STD-3009 to be used in identified cases.

SME maggarcl@id.doe.gov

Item (13) needs to have the qualifier "for new DOE non-reactor nuclear facilities and major modifications to existing DOE nonreactor nuclear facilities." added to it.

Response:

Reject The responsibilities in Section 5 correspond to the requirements in Section 4. Sections 4.g and 4.h describe the applicable cases.

Suggested comment from Jennifer Kelley for Headquarters SC

Change DOE-STD-3009-2014, *Preparation of Nonreactor Nuclear Facility Documented Safety Analysis to DOE-STD-3009-94, Preparation Guide For U.S. Department of Energy Nonreactor Nuclear Facility Documented Safety Analysis.*

Response:

Reject The revised version of DOE-STD-3009 will be called DOE-STD-3009-2014, if issued in 2014, rather than DOE-STD-3009-94, Change Notice 4 because of the magnitude of the changes.

Revise 5c(14) to: In accordance with DOE-STD-1104-2014, review and approve non-reactor nuclear facility safety basis and safety design basis documents. The safety harbor methodology for a reactor facility is Nuclear Regulatory Commission Regulatory Guide 1.70. DOE-STD-1104 is written primarily for review and approval of a DOE-STD-3009 safe harbor methodology. DOE-STD-1104 is not well suited for a review of the NRC Regulatory Guide 1.70 safe harbor methodology.

Response:

Reject Section 4.i requires use of the revised DOE-STD-1104 and this revision allows for DOE review against the applicable safe harbor method.

ATTACHMENT 1. CRD

Major comment from Steve Duarte for Headquarters GC

Included comments:

SME robin.henderson@hq.doe.gov

Please change the first sentence in paragraph c. to read as follows:

"Contractors must identify and comply with the applicable national consensus industry codes and standards, including the *International Building Code* (IBC), and the applicable DOE requirements and standards in all design and construction activities." Alternatively, the sentence can be written as follows: In all design and construction activities, contractors must"

Although you do not propose to change paragraph d., it would be helpful to indicate where the "standards [are] identified as applicable." I think it is intended to refer to standards identified pursuant to paragraph c., but it isn't clear.

Response:

Accept

Major comment from Cathy Tullis for Headquarters NA

Included comments:

SME Hank.Kloeckler@npo.doe.gov

Why remove the word comply? Should state "must identify and comply."

Response:

Accept with Modifications

Regarding the suggested change to 'identify and comply', this was intended to be addressed in Section 1.d of the CRD which has been revised to state: Contractors must satisfy the requirements (i.e., mandatory statements) in DOE technical standards and industry codes and standards that are identified as applicable in accordance with Section 1.c above, unless relief is approved in accordance with

Section 2, below.

Suggested comment from Cathy Tullis for Headquarters NA

Included comments:

SME Jose.Munoz@nnsa.doe.gov

Delete the comma after "activities" and "(IBC)."

Response:

Accept with Modifications Revised to read: For design and construction activities, contractors must identify the applicable national consensus industry codes and standards, including the International Building Code (IBC), and the applicable DOE requirements and technical standards.

Major comment from PK Niyogi for Headquarters NE

Included comments:

SME MORRISK@ID.DOE.GOV

Changing "must comply with" to "must identify" eliminates the requirement to meet applicable codes and standards. Sentence should state, "Design and construction activities must identify and comply with applicable national consensus industry codes and standards, including the International Building Code (IBC), and the applicable DOE requirements and standards."

Response:

Accept with Modifications Regarding the suggested change to 'identify and comply', this was intended to be addressed in Section 1.d of the CRD which has been revised to state: Contractors must satisfy the requirements (i.e., mandatory statements) in DOE technical standards and industry codes and standards that are identified as applicable in accordance with Section 1.c above, unless relief is approved in accordance with Section 2, below.

SME mcanulmj@id.doe.gov

Changing from "must comply with" to "must identify" eliminates the requirement to meet applicable industry codes.

Response:

Accept with Modifications Regarding the suggested change to 'identify and comply', this was intended to be addressed in Section 1.d of the CRD which has been revised to state: Contractors must satisfy the requirements (i.e., mandatory statements) in DOE technical standards and industry codes and standards that are identified as applicable in accordance with Section 1.c above, unless relief is approved in accordance with Section 2, below.

Major comment from Jennifer Kelley for Headquarters SC

Please add to paragraph 1e the following: For major modifications to existing nuclear facilities, the applicable PSO, with concurrence by the applicable Central Technical Authority, may approve an exception to this requirement.

Response:

Accept with Modifications Added the following note to Section 1.e: Note: for such major modifications to existing non-reactor nuclear facilities, the applicable PSO, with concurrence by the applicable Central Technical Authority, may approve use of DOE-STD-3009-94.

Suggested comment from Jennifer Kelley for Headquarters SC

The change from comply with to identify is not clearly defined in what manner they are to be identified.

Response:

Reject Attachment 3 describes the method for identifying codes and standards.

Paragraph c. was the core requirement which assigned code compliance with regards to construction and design activities. Now, the paragraph seems to only require identifying/listing applicable codes and standards including the IBC. The intent of this revision is unclear to myself.

Response:

Accept with Modifications Regarding the suggested change to 'identify and comply', this was intended to be addressed in Section 1.d of the CRD which has been revised to state: Contractors must satisfy the requirements (i.e., mandatory statements) in DOE technical standards and industry codes and standards that are identified as applicable in accordance with Section 1.c above, unless relief is approved in accordance with Section 2, below.

Suggested comment from Bud Danielson for Headquarters CTA

The phrase "applicable national consensus industry codes and standards" may confuse two types of standards; "National Consensus Standards" that are developed under ANSI accredited procedures and "Industry Standards" that may or may not be developed under ANSI.

Response:

Accept Deleted the phrase 'national consensus.'

Major comment from Steve Duarte for Headquarters GC**Included comments:**

SME james.jurich@hq.doe.gov

CRD, Paragraph 1e contains an awkward phrasing after the comma beginning: "and intend to use the DOE-STD-3009 method to satisfy the 10 C.F.R. 830 requirements." It's not clear if this is a requirement. It should be re-drafted for clarity.

Response:

Accept with Modifications Revised 1.e to read: When the DOE-STD-3009 methodology is used to satisfy 10 Code of Federal Regulations (C.F.R.) Part 830, Nuclear Safety Management, safety basis requirements, DOE-STD-3009-2014, Preparation of Nonreactor Nuclear Facility Documented Safety Analysis, must be used for new DOE non-reactor nuclear facilities and major modifications to existing DOE non-reactor nuclear facilities.

SME robin.henderson@hq.doe.gov

Please change paragraph e. to read as follows: "DOE-STD-3009-2014, *Preparation of Nonreactor Nuclear Facility Documented Safety Analysis*, must be used for new DOE non-reactor nuclear facilities and major modifications to existing DOE nuclear facilities, and **in facilities where intend to use the** DOE-STD-3009 method **is used** to satisfy 10 C.F.R. **Part** 830 requirements."

Please add the word "Part" after "C.F.R." in paragraph f..

Response:

Accept with Modifications Revised 1.e to read: When the DOE-STD-3009 methodology is used to satisfy 10 Code of Federal Regulations (C.F.R.) Part 830, Nuclear Safety Management, safety basis requirements, DOE-STD-3009-2014, Preparation of Nonreactor Nuclear Facility Documented Safety Analysis, must be used for new DOE non-reactor nuclear facilities and major modifications to existing DOE non-reactor nuclear facilities.

Major comment from Cathy Tullis for Headquarters NA**Included comments:****Linell Carter for Pantex - BWXT Pantex, LLC**

1e DOE-STD-3009-2014 has not been through the formal concurrence process. The version currently in use is DOE-STD-3009-94 Change 3. Contractors cannot be directed to use a STD that has not officially been published and readily available. Authorization Basis (AB) will have to review for implementation/applicability.

1f DOE-STD-3009-2014 has not been through the formal concurrence process. The version currently in use is DOE-STD-3009-94 Change 3. Contractors cannot be directed to use a STD that has not officially been published and readily available. Authorization Basis (AB) will have to review for implementation/applicability.

Response:

Accept The DOE O 420.1C page change will not be issued until the standards revisions are issued.

SME Jose.Munoz@nnsa.doe.gov

Revise item e. to read:

When the DOE-STD-3009 methodology is used to satisfy 10 C.F.R. 830 safety basis requirements, then DOE-STD-3009-2014, *Preparation of Nonreactor Nuclear Facility Documented Safety Analysis*, must be used for new DOE nuclear facilities and major modifications to existing DOE nuclear facilities.

Additionally, requiring the use of DOE-STD-3009-2014 for major modifications to existing nuclear facilities has the potential to create inconsistent analyses within the same documents.

Revise item f. to read:

Comply with the requirements specified in DOE-STD-3009-2014 (**Section 3.3.1, Existing Facilities with Mitigated Offsite Consequence Estimates over the EG**) for existing DOE nuclear facilities that have mitigated off-site dose estimates greater than 25 rem.

Response:

Accept with Modifications Revised 1.e to read: When the DOE-STD-3009 methodology is used to satisfy 10 Code of Federal Regulations (C.F.R.) Part 830, Nuclear Safety Management, safety basis requirements, DOE-STD-3009-2014, Preparation of Nonreactor Nuclear Facility Documented Safety Analysis, must be used for new DOE non-reactor nuclear facilities and major modifications to existing DOE non-reactor nuclear facilities. Regarding Section 3.3.1 of DOE-STD-3009-2014, The suggested resolution is contrary to DOE IP 2010-1 Section 6.2 which states: the approved updated DSAs and associated Safety Evaluation Reports, developed and approved in accordance with the revised standards and directives, will constitute the documentation of this evaluation.

Major comment from PK Niyogi for Headquarters NE

Included comments:

SME darrell.huff@nuclear.energy.gov

10 CFR 830 does not specifically require a new non-reactor nuclear facility or a major modification of an existing non-reactor nuclear facility to use DOE-STD-3009-2014. Therefore, this requirement directly conflicts with the requirement in Section 4.d.(2) of DOE Order 251.1C which states that: "Departmental directives shall not duplicate or be inconsistent with applicable laws or regulations." Since the latitude exists within 10 CFR 830 to use any approved version of DOE-STD-3009 including Change Notice No. 1, January 2000, Preparation Guide for U.S. Department of Energy Non-reactor Nuclear Facility Safety Analysis Reports, July 1994, a successor document, or any other methodology that is approved by the DOE safety basis approval authority, the requirement in this Order to use DOE-STD-3009-2014 for new DOE non-reactor nuclear facilities and major modifications to existing non-reactor nuclear facilities directly conflicts with the

forementioned requirement in DOE Order 251.1C.

Response:

Reject The requirement in the Order is not identical to the requirement in the Rule. The requirement in the Order supplements the requirement in the Rule in that it specifies a specific version of DOE-STD-3009 to be used in identified cases.

SME maggarcl@id.doe.gov

paragraph e should state "and major modifications to existing DOE non-reactor nuclear facilities. (applicable to entire document)

Response:

Accept

Suggested comment from PK Niyogi for Headquarters NE

Included comments:

SME mcanulmj@id.doe.gov

paragraph e should state "and major modifications to existing DOE non-reactor nuclear facilities.

Response:

Accept

Major comment from Jennifer Kelley for Headquarters SC

There should not be an automatic requirement to use 3009-2014 for major modifications. The DOE-approved Safety Design Strategy (SDS) set forth in DOE-STD-1189, *Integration of Safety into the Design Process*, which is required to be developed for major modifications, is the appropriate vehicle for determining the applicability of 3009-2014 to a given major modifications. As stated in 1189 as it pertains to the applicability of nuclear safety design criteria and supporting safety documentation, the determination should be on a case basis. Requiring that the PSO and CTA approve and "exception" (the burden is on arguing why not) makes the contractor coordinate multiple routes to satisfying DOE (exception process for 3009 and SDS for other major mod questions). So the SDS is the more logical and appropriate DOE-approved vehicle for establishing the need for a new DSA for a facility based on a major modification.

Response:

Accept with Modifications Added the following note to Section 1.e: Note: for such major modifications to existing non-reactor nuclear facilities, the applicable PSO, with concurrence by the applicable Central Technical Authority, may approve use of DOE-STD-3009-94.

Suggested comment from Jennifer Kelley for Headquarters SC

Paragraph 1e does not read well and needs to be rewritten. Suggestion of DOE-STD-3009-2014...., must be used for new DOE non-reactor nuclear facilities and major modifications to existing DOE nuclear facilities, when selected as the safe harbor to

satisfy 10 CFR 830 requirements.

Response:

Accept with Modifications Revised 1.e to read: When the DOE-STD-3009 methodology is used to satisfy 10 Code of Federal Regulations (C.F.R.) Part 830, Nuclear Safety Management, safety basis requirements, DOE-STD-3009-2014, Preparation of Nonreactor Nuclear Facility Documented Safety Analysis, must be used for new DOE non-reactor nuclear facilities and major modifications to existing DOE non-reactor nuclear facilities.

The language needs to be clarified to reflect that the STD-3009 method is not required when a different safe harbor is chosen. For example, this safe harbor might not be chosen for transportation activities.

Response:

Accept with Modifications Revised 1.e to read: When the DOE-STD-3009 methodology is used to satisfy 10 Code of Federal Regulations (C.F.R.) Part 830, Nuclear Safety Management, safety basis requirements, DOE-STD-3009-2014, Preparation of Nonreactor Nuclear Facility Documented Safety Analysis, must be used for new DOE non-reactor nuclear facilities and major modifications to existing DOE non-reactor nuclear facilities.

Editorial comment for item e. - sentence would be more clear if it read - "... and major modifications to existing DOE nuclear facilities when they intend to use the DOE-STD-3009 method

...."

Response:

Accept with Modifications Revised 1.e to read: When the DOE-STD-3009 methodology is used to satisfy 10 Code of Federal Regulations (C.F.R.) Part 830, Nuclear Safety Management, safety basis requirements, DOE-STD-3009-2014, Preparation of Nonreactor Nuclear Facility Documented Safety Analysis, must be used for new DOE non-reactor nuclear facilities and major modifications to existing DOE non-reactor nuclear facilities.

Editorial comment for item f. - sentence would be more clear if it read - "... to satisfy 10 C.F.R. 830 requirements when those facilities have mitigated off-site dose estimates"

Response:

Accept

Editorial comment: The text in item e. should be changed to read "...modifications to existing DOE nuclear facilities that use the DOE-STD-3009..."

Response:

Accept with Modifications Revised 1.e to read: When the DOE-STD-3009 methodology is used to satisfy 10 Code of Federal Regulations (C.F.R.) Part 830, Nuclear Safety Management, safety basis requirements, DOE-STD-3009-2014,

Preparation of Nonreactor Nuclear Facility Documented Safety Analysis, must be used for new DOE non-reactor nuclear facilities and major modifications to existing DOE non-reactor nuclear facilities.

Major comment from Bud Danielson for Headquarters CTA

The last section of the sentence in para. 1.e which reads, "*and intend to use the DOE-STD-3009 method to satisfy 10 C.F.R. 830 requirements*" does not correctly modify the first parts of the sentence. Perhaps it is missing some key words to connect it to the first part of the sentence, or it should be revised to stand alone. In addition, "non-reactor" is missing from the portion of the sentence that discusses major modifications.

One option to correct this would read:

*"e.DOE-STD-3009-2014, Preparation of Nonreactor Nuclear Facility Documented Safety Analysis, must be used for new DOE non-reactor nuclear facilities and major modifications to existing DOE **non-reactor** nuclear facilities **when** ~~and intend to use the DOE-STD-3009~~ **is the method chosen** to satisfy 10 C.F.R. 830 requirements."*

Response:

Accept with Modifications Revised 1.e to read: When the DOE-STD-3009 methodology is used to satisfy 10 Code of Federal Regulations (C.F.R.) Part 830, Nuclear Safety Management, safety basis requirements, DOE-STD-3009-2014, Preparation of Nonreactor Nuclear Facility Documented Safety Analysis, must be used for new DOE non-reactor nuclear facilities and major modifications to existing DOE non-reactor nuclear facilities.

Suggested comment from Steve Duarte for Headquarters GC

Included comments:

SME james.jurich@hq.doe.gov

Recommend Paragraph 2a wording be changed to read "Requests for equivalencies/exemptions to the requirements..." This recognizes the distinction between equivalencies and exemptions and matches the language used in the Order template available at https://www.directives.doe.gov/development-and-review-of-directives/directives_templates

Response:

Reject

Major comment from PK Niyogi for Headquarters NE

Included comments:

SME mcanulmj@id.doe.gov

Equivalencies to the DOE O 420.1C should require consultation with the Office of Primary Interest but equivalencies to industry codes should not. Equivalencies to codes and standards is already outlined in DOE G 440.1-1B.

Response:

Accept Section 2.a addresses equivalencies to DOE O 420.1C requirements and Section 2.b addresses equivalencies to applicable codes and standards. No action required.

Major comment from Jennifer Kelley for Headquarters SC

For requests from the Rule 10 CFR 830 there is a regulatory process in place, 10 CFR 820, that describes the process for seeking regulatory relief, hence the addition of the 3009 STD DRAFT to this directive, and the language about exemptions in this paragraph seems to indicate a compulsory requirement (in a STD) that you must process the exemptions FIRST in accordance with 251.1C, then apply the regulatory process in 820. Without the addition of the 3009 STD DRAFT this process was clear and the reference made sense, now there is a need for an additional qualifier indicating unless indicated by Rule elsewhere.

This also would indicate that use of the transportation safe harbor in 10 CFR 830 to comply rather than 3009 STD DRAFT the contractor would need to seek approval of an "equivalency" through this section, when the use of the safe harbor would be rote compliance.

Response:

Reject The provisions in Order 420.1C are not in conflict with, and cannot override the requirements of, 10 CFR 830.

Suggested comment from Bud Danielson for Headquarters CTA

This section has another variation on the title used for non-DOE standards.

Response:

Accept Modified 1.c

ATTACHMENT 2. FACILITY SAFETY REQUIREMENTS

Suggested comment from Steve Duarte for Headquarters GC

Included comments:

SME robin.henderson@hq.doe.gov

In the unchanged sentence in the footnote, should "criterion" be "criteria." Note: "criteria" is used in the new sentence. In the new sentence, should "single failure criteria" be "single **point failure criteria**"?

Response:

Accept "Point" removed.

Major comment from PK Niyogi for Headquarters NE**Included comments:**

SME mcanulmj@id.doe.gov

Adding ANS 58.9 in the footnote is unnecessary to support the definition of *single point failure criterion* as the IEEE standard provides. If complying with ANS 58.9 is a requirement, then it needs to be clearly stated. If it is meant for guidance, then it should be included elsewhere such as DOE G 420.1-1A.

Response:

Reject ANS 58.9 merely provides guidance, as stated.

SME maggarcl@id.doe.gov

Footnote 4 is specific to electrical and fluid systems with the provided reference. Why doesn't the footnote just specify "Fluid and electric systems are considered to be designed against an assumed single failure if neither (1) a single failure of any active component (assuming passive components function properly) nor (2) a single failure of a passive component (assuming active components function properly), results in a loss of the capability of the system to perform its safety functions." and leave out the Standards. It is confusing to have specific Standards identified outside of Attachment 3.

Response:

Reject The information in the footnote is for reference and guidance, not for compliance. The footnote was originally added in response to a comment about the definition of single failure criterion.

Major comment from Steve Duarte for Headquarters GC**Included comments:**

SME robin.henderson@hq.doe.gov

Please change the first sentence in (2) to read as follows: "The applicable building code and National Fire Protection Association (NFPA) codes and standards must be identified in the fire protection and emergency response programs."

Response:

Accept

Major comment from Cathy Tullis for Headquarters NA**Included comments:**

SME Hank.Kloeckler@npo.doe.gov

Paragraph 3a(2) should state "must identify **and meet** the applicable building code and NFPA..." NFPA codes and standards cover more than just design (i.e., operations and program requirements) and without the word "meet" there wouldn't be a requirement to follow those codes and standards. Facility design is appropriately worded in 3a(2)(a) "must be constructed to meet applicable codes and standards."

Response:

Reject This is adequately covered by Attachment 1, Section 1.d.

SME btrhodes@pantex.doe.gov

must identify **and meet the applicable building code**

Response:

Reject This is adequately covered by Attachment 1, Section 1.d.

SME mowrerds@y12.doe.gov

This section should require both "Identify" and "meet" requirements of applicable codes and standards. Even though section (2)(a) requires facilities to "meet" the codes; that section, as written, applies only to facility design. Where is the requirement to comply with code requirements on a daily operational basis, like NFPA 30? Also, section (2)(a) requires "facilities" to meet codes and standards. What about fire water supply piping and other such related systems and components that are not "facilities"? Obviously, the intent of the Order has always been to comply with requirements of applicable codes and standards, not just during the design phase.

Response:

Reject This is adequately covered by Attachment 1, Section 1.d.

Suggested comment from Cathy Tullis for Headquarters NA

Included comments:

SME Hank.Kloeckler@npo.doe.gov

Paragraph 3a(2)(a) should add "**New** facilities and major modifications.."

Response:

Reject

Major comment from PK Niyogi for Headquarters NE

Included comments:

SME MORRISK@ID.DOE.GOV

Changing "meet or exceed" to "identify" eliminates the requirement to meet applicable codes and standards. The fire protection and emergency responses programs need to meet, or exceed, the applicable building code and NFPA codes and standards.

Response:

Reject This is adequately covered by Attachment 1, Section 1.d.

Suggested comment from Jennifer Kelley for Headquarters SC

Paragraph 3a(2) was the core requirement to meet or exceed the applicable building code and NFPA codes and standards. This revision has replaced the "meet or exceed" with "identify". The intent of this revision is unclear as responsibility for specifying applicable codes and standards has historically resided with the "Authority". If the contractor is assigned responsibility for identifying applicable codes and standards, the contractor in essence chooses the applicable codes. This revision provides further confusion as the very next paragraph (3a(2) (a) states that the applicable codes and standards are determined by the authority having jurisdiction(DOE). Please clarify.

Response:

Reject This is adequately covered by Attachment 1, Section 1.d.

Major comment from Marilyn Jacobs for Headquarters EM

Included comments:

SME thomas.tracy@srs.gov

Requiring a separate fire protection program plan adds cost but very little in the way of benefit to either DOE or the contractor. The contractor is already obligated to comply with the applicable DOE Orders/Standards and NFPA Codes/Standards. This compliance is demonstrated in our company Standards/Requirements Identification Document. Creating a separate program plan is redundant. Recommend this requirement be deleted from the Order.

Response:

Accept Revised changed sentence to read: Contractor must submit this documented fire protection program to the DOE field element for review and approval.

Suggested comment from Steve Duarte for Headquarters GC

Included comments:

SME robin.henderson@hq.doe.gov

Please add the following at the end of the last sentence: "(this may be

accomplished in conjunction with 10 Code of Federal Regulations (C.F.R.) Part 851, *Worker Health and Safety Program*)."

This new language is taken from the body of the Order.

Response:

Accept

Major comment from Cathy Tullis for Headquarters NA

Included comments:

SME jimmy.guerry@nnsa.srs.gov

DOE will need to review and approve revisions and changes to the fire protection program in order to maintain cognizance of the program direction. The added statement does not address DOE involvement in revisions to the program and implementing procedures.

Response:

Reject This is implied.

Suggested comment from Cathy Tullis for Headquarters NA

Included comments:

SME btrhodes@pantex.doe.gov

need to add a periodicity of approval, every three years or after a major revision

Response:

Reject The requirement is for the contractor to maintain the fire protection program. The contractor and DOE can work out acceptable periodic update procedures.

SME jimmy.guerry@nnsa.srs.gov

The contractor's fire protection program can consist of a large number of documents. The added sentence needs to account for this or better state what one "document" is considered the contractor's fire protection program document when a multitude of documents could exist.

Response:

Accept Revised changed sentence to read: Contractor must submit this documented fire protection program to the DOE field element for review and approval.

Major comment from Jennifer Kelley for Headquarters SC

Fire Protection Program documentation at SLAC is maintained in electronic format and

managed through controlled intranet sites. The sites' links form an essential element in the organization of the program documents and cannot easily be "submitted." The following proposed verbiage for this requirement would be clearer, as well as more effective and efficient:

"Contractors must maintain fire protection program administrative documents in a form that is readily available for examination by the DOE Field Element for review and approval purposes."

Response:

Accept with Modifications Revised changed sentence to read: Contractor must submit this documented fire protection program to the DOE field element for review and approval.

Suggested comment from Jennifer Kelley for Headquarters SC

There is an inconsistency between the Order and the CRD in that Section 5.c. of the Order states that the fire protection program approval may be accomplished in conjunction with the approval of the Worker Safety and Health Program Description required by 10 CFR 851, but the CRD does not provide that option to the contractor. Recommend the sentence be modified to read "Contractor must submit the fire protection program document to the DOE field element for review and approval, or include the documented fire protection program in the Worker Safety and Health Program Description submittal required by 10 CFR Part 851."

Response:

Accept

Suggested comment from Steve Duarte for Headquarters GC

Included comments:

SME robin.henderson@hq.doe.gov

In paragraph c.(2) (and other places), you refer to 2012 dollars. Do you want to update those references to 2014?

Response:

Reject The 2012 dollars corresponded to the 2012 approval of the Order revision. These dollar values may be re-evaluated at the next major revision of this Order.

Major comment from Cathy Tullis for Headquarters NA

Included comments:

SME btrhodes@pantex.doe.gov

will the 2012 dollars be consistently evaluated across the sites. Could create some creative evaluations, so fire suppression will not be required.

Response:

Accept The following footnote was added: DOE G 413.3-21, Cost Estimating Guide, dated May 9, 2011, Section 6.4.4 provides guidance on historical cost estimates and historical cost indexes (such as RS Means). To convert 2012 dollar amounts to present value, an applicable historical cost index is selected, documented, and used, as described in G 413.3-21. Also added this Guide to the reference list.

SME mowrerds@y12.doe.gov

[This comment also applies to section f.(2)(a)]

Need clarification of intent of the phrase "in 2012 dollars". It appears the intent is to index the dollar values in some manner, recognizing the impact of inflation, etc. However, as written this is not clear.

As an example, for a new facility designed in 2020, the est. cost may be \$ 5.2 million, but only would have cost \$ 4.7 million in 2012. Therefore, that new building would not require sprinklers in 2020? Another example; an existing facility built in 2012 cost \$ 4.8 million. In 2018, an addition is constructed that costs \$ 300,000. Calculations show that the addition would have cost only \$ 190,000 in 2012, so the total MPFL in 2012 dollars is still less than \$5 million and again no sprinklers, even though the current MPFL is now documented at more than \$5 million.

Also, what about a facility where several modifications are added over a 10 year period; from 2012 to 2022. A new addition in 2023 might bring the MPFL to a value more than \$5 million. Is is the intent to go back to each separate modification and calculate the value in terms of 2012 dollars for each modification separately and then somehow re-combine the values to re-check against 5h3 \$5 million dollar criteria? How would this be done exactly?

This change needs to be re-considered to ensure the intent is crystal clear. To my knowledge this has not been a big problem in the past. Inserting a specific year such as 2012, makes it confusing.

Response:

Accept The following footnote was added: DOE G 413.3-21, Cost Estimating Guide, dated May 9, 2011, Section 6.4.4 provides guidance on historical cost estimates and historical cost indexes (such as RS Means). To convert 2012 dollar amounts to present value, an applicable historical cost index is selected, documented, and used, as described in G 413.3-21. Also added this Guide to the reference list.

SME KUBICEJL@NV.DOE.GOV

Section (2) (c) 5 should be deleted. Requiring automatic fire suppression systems based on the buildings foot print our facilities underground and above ground would require an extremely large budget to install the system with minimal reward for the expense. Basis should be replaced to include an evaluation by a qualified Fire Protection Engineer taking into account the operations, combustibles, sources of ignition, and other hazards to determine IF an automatic

system should be installed or other options are available add a reduced installation and maintenance expense. Use the Informed-Risk, Performance-Based methodology to determine the need.

Response:

Reject The approved requirement already related to square feet.

SME Hank.Kloeckler@npo.doe.gov

Suggest removing the 5,000 sq ft requirement because it has no basis in risk or hazards. The consideration should be to protect DOE from hazards, monetary loss, or mission interruption.

Response:

Reject The approved requirement already related to square feet.

Suggested comment from Cathy Tullis for Headquarters NA

Included comments:

SME Jose.Munoz@nnsa.doe.gov

Several of the specified requirements indicate "in 2012 dollars" without specifying an acceptable method for converting the dollar value to 2012 dollars, the dollar threshold should just be the current value at the time of application.

Furthermore, under item (2)(b), pointing to NFPA may not be appropriate since most jurisdictions apply IBC in this area rather than NFPA.

Response:

Accept The following footnote was added: DOE G 413.3-21, Cost Estimating Guide, dated May 9, 2011, Section 6.4.4 provides guidance on historical cost estimates and historical cost indexes (such as RS Means). To convert 2012 dollar amounts to present value, an applicable historical cost index is selected, documented, and used, as described in G 413.3-21. Also added this Guide to the reference list.

SME Jose.Munoz@nnsa.doe.gov

Under Protection Thresholds; Items (c)4 and 5 have been revised to include "**new facility**"; however, item (b) already covers new facilities.

Delete "**new facility**" from these items.

Response:

Accept

Suggested comment from Jennifer Kelley for Headquarters SC

The dollar limits are based on 2012 dollars per this paragraph and several other locations. This insert begs for an escalation or inflation rate to be specified.

Response:

Accept The following footnote was added: DOE G 413.3-21, Cost Estimating Guide, dated May 9, 2011, Section 6.4.4 provides guidance on historical cost estimates and historical cost indexes (such as RS Means). To convert 2012 dollar amounts to present value, an applicable historical cost index is selected, documented, and used, as described in G 413.3-21. Also added this Guide to the reference list.

Major comment from Marilyn Jacobs for Headquarters EM

Included comments:

SME thomas.tracy@srs.gov

This change could be construed as requiring assessments be performed on all structures not just buildings. Adding non-buildings to the scope will require additional resources and is not justified by the benefit.

Response:

Reject Nuclear facility is a well-defined term in DOE. This section provides adequate flexibility.

Suggested comment from Cathy Tullis for Headquarters NA

Included comments:

SME Jose.Munoz@nnsa.doe.gov

The revision to the requirement indicates "in 2012 dollars" without specifying an acceptable method for converting the dollar value to 2012 dollars, the dollar threshold should just be the current value at the time of application.

Response:

Accept The following footnote was added: DOE G 413.3-21, Cost Estimating Guide, dated May 9, 2011, Section 6.4.4 provides guidance on historical cost estimates and historical cost indexes (such as RS Means). To convert 2012 dollar amounts to present value, an applicable historical cost index is selected, documented, and used, as described in G 413.3-21. Also added this Guide to the reference list.

Suggested comment from Cathy Tullis for Headquarters NA

Included comments:

SME Jose.Munoz@nnsa.doe.gov

The revision to the requirement indicates "in 2012 dollars" without specifying an acceptable method for converting the dollar value to 2012 dollars, the dollar threshold should just be the current value at the time of application.

Response:

Accept The following footnote was added: DOE G 413.3-21, Cost Estimating Guide, dated May 9, 2011, Section 6.4.4 provides guidance on historical cost estimates and historical cost indexes (such as RS Means). To convert 2012 dollar amounts to present value, an applicable historical cost index is selected, documented, and used, as described in G 413.3-21. Also added this Guide to the reference list.

Suggested comment from Cathy Tullis for Headquarters NA

Included comments:

SME jeffrey.petraglia@nnsa.doe.gov

Attachment 2 Section 3.2, ANSI/ANS-8.1-1998, Nuclear Criticality Safety in Operations with Fissionable Materials Outside Reactors is now ANS/ANS-8.1-2014.

Response:

Accept

Suggested comment from Bud Danielson for Headquarters CTA

Should this refer to the "ANSI/ANS-8 **series** of nuclear criticality safety standards..." to more accurately capture the scope?

Response:

Accept

Major comment from PK Niyogi for Headquarters NE

Included comments:

SME maggarcl@id.doe.gov

A caveat needs to be added to allow for the consideration of a major modification within an existing system. It may not be appropriate to have new NPH requirements integrated into an existing system. Allowances should be considered as specified in 1189.

Response:

Reject This clarification was always intended, just not specifically written. DOE-STD-1020-2012 was issued after DOE-STD-1189-2008. DOE-STD-1189-2008 revision will consider any changes needed. Otherwise, see relief described in the CRD, Attachment 1.

ATTACHMENT 3. DESIGN CRITERIA FOR SAFETY STRUCTURES, SYSTEMS, AND COMPONENTS

Suggested comment from Cathy Tullis for Headquarters NA

Included comments:

SME Jose.Munoz@nnsa.doe.gov

Revise the "Note" to read:

Relief is not required for industry codes and standards **evaluated as not being** applicable to the design **or construction**.

Response:

Accept Revised to read: (Note: Relief is not necessary for requirements within an applicable industry code and standard where the requirements are not relevant to the design or construction.)

Suggested comment from PK Niyogi for Headquarters NE

Included comments:

SME mcanulmj@id.doe.gov

The revision added redundant "applicable". Suggest removing one of the "applicable" Also, the note is unnecessary as this is just stating the obvious. No relief has ever been necessary when a requirement is not applicable.

Response:

Accept with Modifications This note was requested to be explicitly stated as an outcome of the O 420.1C roll-out training sessions. Revised to read: (Note: Relief is not necessary for requirements within an applicable industry code and standard where the requirements are not relevant to the design or construction.)

Major comment from Marilyn Jacobs for Headquarters EM

Included comments:

SME Jack.Parker@srs.gov

A proposed change in Table 1 changes the required design code for Safety Significant concrete structures to ACI 349 from ACI 318. This potentially conflicts with DOE-STD-1020 and DOE-STD-1189. In my experience at SRS, most SS structures end up being designed to PC-2/SDC-2 loads. Per DOE-STD-1020 3.6.2 SDC-2 structural capacity shall be per ASCE 7, which in turn references ACI 318.

Per DOE-STD-1189 Table A-1, it is possible for SS structures to be categorized as either SDC-2 *or* SDC-3 depending upon the unmitigated consequence to the collocated worker. The appropriate design code should be driven by the SDC, not the functional classification.

Recommendation - I propose listing both ACI 318 and ACI 349 for SS concrete structures as they may be categorized as SDC-2 (thus requiring ASCE 7 and ACI 318 per DOE-STD-1020 3.6.2) or SDC-3 (thus requiring ASCE 43 and ACI 349

per DOE-STD-1020 3.6.1). This is similar to what is already proposed for steel structures in the next row - both AISC 360 and N690 are listed.

Response:

Accept

Bruce Way for Savannah River Site - Savannah River Nuclear Solutions (SRNS) EM

Comment provided by Shawn Carey of SRNS:

A proposed change in Table 1 changes the required design code for Safety Significant concrete structures to ACI 349 from ACI 318. This potentially conflicts with DOE-STD-1020 and DOE-STD-1189. In my experience at SRS, most SS structures end up being designed to PC-2/SDC-2 loads. Per DOE-STD-1020 3.6.2 SDC-2 structural capacity shall be per ASCE 7, which in turn references ACI 318.

Per DOE-STD-1189 Table A-1, it is possible for SS structures to be categorized as either SDC-2 *or* SDC-3 depending upon the unmitigated consequence to the collocated worker. The appropriate design code should be driven by the SDC, not the functional classification.

Recommendation - Propose listing both ACI 318 and ACI 349 for SS concrete structures as they may be categorized as SDC-2 (thus requiring ASCE 7 and ACI 318 per DOE-STD-1020 3.6.2) or SDC-3 (thus requiring ASCE 43 and ACI 349 per DOE-STD-1020 3.6.1). This is similar to what is already proposed for steel structures in the next row - both AISC 360 and AISC-N690 are listed.

Response:

Accept

Major comment from Cathy Tullis for Headquarters NA

Included comments:

SME james.goss@npo.doe.gov

The change to this table is not an administrative change or a correction and clarification. I thought the justification memo provided a scope of the changes to the document.

Response:

Accept with Modifications Table 1 for SS now shows both ACI-318 and ACI-349. The addition of ACI-349 is for completeness and consistent with STD-1020. Also added note under Table 1 that says: "Note: See DOE-STD-1020-2012 for further discussion on selection and use of codes for structural design of SSCs."

Linell Carter for Pantex - BWXT Pantex, LLC

Table 1-Concrete ACI 318 is applicable for expansion anchors, post-installed

anchors, and adhesive anchors. ACI 349 is for embedment's used to transfer the structural loads. For existing buildings and major modifications, ACI 318 must be followed. For new construction, ACI 349 is applicable. Need an exemption from ACI 349 for existing structures/facilities and major modification projects

Table 1-Steel No Comment

Response:

Accept Table 1 will reflect both ACI-318 and 349 for SS SSCs. Also added note under Table 1 that says: "Note: See DOE-STD-1020-2012 for further discussion on selection and use of codes for structural design of SSCs."

SME james.goss@npo.doe.gov

The change to ACI-349 from ACI-318 for safety significant concrete is a significant change and will increase cost significantly. In general, safety significant codes typically used standard commercial standards. ACI-318 is a standard commercial concrete code and -349 is the reactor grade concrete code. Code -349 would be used for SDC-3 and higher structures but -318 would be used for lower SDC grades. Recommend allowing use of -318 or -349 for SS concrete.

Response:

Accept Table 1 will reflect both ACI-318 and 349 for SS SSCs. Also added note under Table 1 that says: "Note: See DOE-STD-1020-2012 for further discussion on selection and use of codes for structural design of SSCs."

Major comment from PK Niyogi for Headquarters NE

Included comments:

SME maggarcl@id.doe.gov

ACI-349 is for safety-related structures. Safety-related is specific to protection of the public "safety-class". To impose this standard on safety-significant structures will add unnecessary cost for "worker protection". This should be revised back to ACI-318.

Response:

Accept Table 1 will reflect both ACI-318 and 349 for SS SSCs. Also added note under Table 1 that says: "Note: See DOE-STD-1020-2012 for further discussion on selection and use of codes for structural design of SSCs."

Major comment from Jennifer Kelley for Headquarters SC

The justification memo states that the purpose of Change 1 is to invoke the revised standards DOE-STD-1104 and DOE-STD-3009 and to make miscellaneous administrative corrections and clarifications with minimal impact. The proposed change in Attachment 3 Table 1 changes the required design code for Safety Significant concrete structures to ACI 349 from ACI 318 and the required design code for Safety Significant steel structures to AISC 360, AISC-325, and AISC-N690 from AISC 360 and AISC-325. This change could potentially significantly raise cost without a commensurate improvement in safety. This change exceeds the purpose stated in the justification memo

and should not be made on this page change. I recommend deleting the change in Attachment 3 Table 1.

Response:

Accept Table 1 will reflect both ACI-318 and 349 for SS SSCs. Also added note under Table 1 that says: "Note: See DOE-STD-1020-2012 for further discussion on selection and use of codes for structural design of SSCs."

ATTACHMENT 4. REFERENCES AND ACRONYMS

Major comment from Cathy Tullis for Headquarters NA

Included comments:

SME William.Pulse@nnsa.doe.gov

1104-2014 has not been approved. It is not appropriate to direct use of a technical standard for use when in a draft condition.

Response:

Accept The DOE O 420.1C page change will not be issued until the standards revisions are issued.

Suggested comment from Cathy Tullis for Headquarters NA

Included comments:

SME jeffrey.petraglia@nnsa.doe.gov

Attachment 4 Section 1.l. ANSI/ANS-8.1-1998, Nuclear Criticality Safety in Operations with Fissionable Materials Outside Reactors is now ANS/ANS-8.1-2014.

Response:

Accept

SME jeffrey.petraglia@nnsa.doe.gov

Attachment 4 Section 1.e, DOE-STD-1134-1999, Review Guide for Criticality Safety Evaluations has been canceled.

Response:

Accept The DOE website does not show this as canceled but it is understood that this will be canceled in the near future and this reference is not critical to the understanding of the DOE O 420.1C requirements.

Linell Carter for Pantex - BWXT Pantex, LLC

1.e.(7) DOE-STD-1104-2014 has not been through the formal concurrence

process. See previous comments for issues relating to the document. The draft version is not readily accessible.

Response:

Accept The DOE O 420.1C page change will not be issued until the standards revisions are issued.

Suggested comment from PK Niyogi for Headquarters NE

Included comments:

SME floreeca@id.doe.gov

The document references a draft document as part of the references in this section. Will the document be final for reference here?

Response:

Accept The DOE O 420.1C page change will not be issued until the standards revisions are issued.

Suggested comment from Jennifer Kelley for Headquarters SC

We are unclear as to who a DOE entity or a contractor is to evaluate and implement the use of a DRAFT DOE standard...this should not be added until the STD has been fully approved and available for review, THEN this directive revised and reissued into REVCOM for review, it seems to have been done prematurely....

Response:

Accept The DOE O 420.1C page change will not be issued until the standards revisions are issued.

Major comment from Steve Duarte for Headquarters GC

Included comments:

SME robin.henderson@hq.doe.gov

I could not find reference number (15), although I found something similar, with no standard number, in the Tech Standards RevCom. Please verify that the name and number are correct. I note that the Order invokes draft TS 3009 and 1104 as requirements. This Order should not be issued as-is unless the Standards are approved.

Response:

Accept

Major comment from Cathy Tullis for Headquarters NA

Included comments:

SME KUBICEJL@NV.DOE.GOV

Draft documents should not be referenced. Not enforceable.

Response:

Accept The DOE O 420.1C page change will not be issued until the standards revisions are issued.

SME William.Pulse@nnsa.doe.gov

3009 has not been approved. It is inappropriate to enforce a requirement to use a draft document - especially since HQ non-concurrences are apparent at this time.

Response:

Accept The DOE O 420.1C page change will not be issued until the standards revisions are issued.

Suggested comment from Cathy Tullis for Headquarters NA

Included comments:

Linell Carter for Pantex - BWXT Pantex, LLC

1.e.(15) No Comment

1.e.(17) DOE-STD-3009-2014 has not been through the formal concurrence process. The version currently in use is DOE-STD-3009-94 Change 3. See previous comments for issues relating to the document. The draft version is not readily accessible.

Response:

Accept The DOE O 420.1C page change will not be issued until the standards revisions are issued.

Major comment from PK Niyogi for Headquarters NE

Included comments:

SME darrell.huff@nuclear.energy.gov

Since some existing DOE Non-reactor Nuclear Facility projects that were required to use DOE-STD-1189 are currently using DOE-STD-3009-1994 for the development of their respective DSAs, the listing of DOE Technical Standards should continue to list DOE-STD-3009-1994 as a current standard for the purposes of implementing DOE-STD-1189.

Response:

Accept

Suggested comment from PK Niyogi for Headquarters NE

Included comments:

SME floreeca@id.doe.gov

This section references a draft document. Will this be finalized for implementation in this order?

Response:

Accept The DOE O 420.1C page change will not be issued until the standards revisions are issued.

Major comment from Bud Danielson for Headquarters CTA

Note that refs. n.(2) and (10) are no longer current. Suggest this be updated as follows:

(2) ASME BPVC, ASME **2013** Boiler and Pressure Vessel Code, **2013**.

(10) ASME NQA-1-**2012**, Quality Assurance Requirements for Nuclear Facility **Applications**, **2013**.

Response:

Accept

Major comment from Cathy Tullis for Headquarters NA

Included comments:

Linell Carter for Pantex - BWXT Pantex, LLC

See comments above. ACI 318 needs to remain listed as a reference document.

Response:

Accept

Suggested comment from Jennifer Kelley for Headquarters SC

In Paragraph 1a, update the editions of the following NFPA references, as the ones shown are not the current published versions as noted below.

NFPA 70 (2014)

NFPA 780 (2014)

NFPA 1143 (2014)

Response:

Accept

